

Home Computing WEEKLY

Start '84 with Britain's brightest micro weekly

No. 43
Jan 3-9, 1984

FREE
inside

Cassette inlays
for your own
programs

Software reviews:
more than ever
before. For
Spectrum,
Dragon, Texas,
Oric, BBC,
Commodore 64

**How to add a
CIRCLE to your
BBC micro**

**Type in our
Commodore 64
sprite editor**

**More listings
for: Spectrum,
Dragon, BBC,
VIC-20, ZX81**

**PLUS: U.S.
Scene, letters,
news, One Man's
View...**



Price row over Dragon, new Tandys

New Tandy Colour Computers go on sale this month — with a claim that Dragon has underpriced its rival micro by £80.

The new range of three models has a 10kbyte operating system to replace the substore type and a whole casing, instead of grey, which is the new Tandy house colour.

Prices, say Tandy, will be in line with the present models, from £240. They are on offer on special offer at £179.95 (£199.95). The Dragon 32 costs about £175 and the new Dragon 64 is £225.

Both Tandy and Dragon use Motorola's 4400 processor and Microsoft BASIC, which means more software will run on other models.

Asked about pricing, Tandy's Martin Schreier said: "Dragon Data is not using the same procedures to calculate prices that we do."

"If you look at an ocean battery, it had to make money to maintain production. Dragon was underpricing by £80."

"We could do the same if we

Continued on page 3

No tears over scrapping of ITV micro

Most of the independent TV companies had mixed feelings about plans for an ITV micro — and many of them are relieved that the idea has been dropped.

After consultations with the Independent TV Companies Association, the Independent Broadcasting Authority decided that the planned micro might breach the Broadcasting Act, which governs ITV but not the BBC.

Section 8 of the Broadcasting Act means that adverts should be kept separate from programme material. And conflicts with all viewers could have arisen if the ITV had decided to sponsor one particular brand of micro.

Speakers for some of the independent TV companies felt that a special ITV micro would have interfered with their casting.

Continued on page 3

A sound choice for your Spectrum—



A crystal-clear sound module that simply plugs into the user port — only £30



It generates its own sound through its own speaker, and unlike most other types, there is no need for additional programming. Make your game playing more exciting, more realistic, make your Spectrum sound output music to your ears. Also available for the BBC micro at £30

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Buy the sound module and choose £30 of software free!



Chuckman Popular arcade game with extra! £5



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Polar Night Robots through levels! £5



Lost Over Bermuda Will the freighter claim you? £5

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Lost Over Bermuda Will the freighter claim you? £5

* £30 Spectrum — everything else £45. All prices including p & p — VAT 0% only.

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24 PAGES OF SPECTRUM BEST

Best Software for
Spectrum Computer,
£7.95 plus £1.00
Post and Packing

For most Spectrum, you know of programs for the 48k Spectrum 48 and VIC-20, have now launched their first two programs for the Spectrum. They are Vampire Village and Space Island, and Brimstone Adventure. Both are great graphic adventures. They cost £5.95 each.

Personal Software, 28 Church Lane, Plymouth, Devon PL4 8JL

This monitor stand for the 48k mono and colour computers is made from quantum-rich thick metal plates by Cassel Pro. It weighs 11.5kg (25lb) by 17" x 14" and costs £12.95, plus VAT and postage.

Cambridge Microelectronics, 1 Alden Road, Cambridge CB4 1JY

Zaxx, Martian Attack, and Collection are Micro Power's latest new titles for the Spectrum and BBC micro, priced at £7.95 each. Micro Power is also converting more of its range to run on the Floppy, including its best-selling Killer Goblins. Prices will range from £6.95 to £9.95.

Micro Power, Northwood House, North Street, Letch L27 2AA

The Joy of Computers is a new book which, with illustrations, diagrams and colour photographs, recovers the fun of computing. It's written by Peter Lash, Editor of Practical Computing and costs £9.95 in hardback. From most bookshops, or by post for as little as £8.95.

Searchers, 166 Portobello Road, London W11 2EP

All the family can learn with two new programs from Solo Software: Tutor Traveler, for the BBC Spectrum and BBC, aims to give you knowledge and inspiration from the Bronze Age to the present day. Designed for the BBC only, it's a stepping program which you try to get a little on backwards, across a stream by spelling jumbled words to build a bridge. Versions for other machines are coming soon. Price £9.95 each.

Solo Software, 4 Church Street, Allen Green, Bath BA1 1NE

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ADVERTISING



There's eight pages of software reviews in this issue — that's a total of 48 programs listed for you. We review more software than any other magazine.



Try to us and have fun with the BBC, game on pages 36 and 37 — it's so fantastically simple.

LUNAR JETMAN - 48K ZX Spectrum
 LUNAR JETMAN is a fast-paced action game. It's a real test of your reflexes and hand-eye coordination.

LUNAR JETMAN - 48K ZX Spectrum
 LUNAR JETMAN is a fast-paced action game. It's a real test of your reflexes and hand-eye coordination.

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NOTE: VAT, first class postage and
 air.

Quick on the draw

Software company Analogix has now moved into graphics with Koola Printer, a DPO graphics tablet for the Commodore 64-plus class.

Graphics tablets allow an owner picture to be produced without the need for programs using knowledge, by drawing with a special stylus on an electronic pad.

Koola Printer, as called because it is made by the Koola Technologies Corp of Santa Clara, California, is controlled by a draw-based program which allows you to draw in eight line widths, 16 colours and 16 patterns.

You can undo a previous command (to correct mistakes), copy pattern elements, create master images and zoom in for detailed drawings.

To select any of these features, you press one of the Koola's buttons to get further items. Press the buttons again to choose the options you want, and another button press returns you to drawing mode.

Koola Printer measures eight inches by six inches by one inch,

and weighs just one pound. The graphics pad surface is four inches square.

Analogix Inc, PO Box 55, Reading, Berks RG1 2JN



The Koola Printer from Analogix — graphics at your fingertips.

It's a no-lose situation

In *MCW* 35, this column was devoted to a complaint from "an anonymous software house" complaining of "dishonesty" from "the few big distributors" who "insisted that they buy programs at 80% margins".

"Is this true then?" I ask myself. "Was he not observing the transformation of the software market that has taken place in the last 12 months? Can he not see that because of the advantage of both his computer and its would-be purchasers of his software? Is he not pleased that under the consumer can walk only one item in the country and find a shop selling good quality software extremely packaged and presented and including at an acceptable price?"

It would be wrong to place all the credit for this situation with the various distributors of computer software, but there can be no doubt that they have played an important part.

Let us take an example. This morning, my company received an order from one of our distributors for 4,000 copies of 3D *Scotchless Attack*, our new Spectrum cassette.

For an order of this size, we willingly allow the distributor a discount of the region of 80%. We do so because the distributor is providing a service to the public which we could not equal, let alone surpass.

We also intend to keep developing, the capacity of the market will be available in hundreds of stores up and down the country in the launch date — 17 December. When the general public sees our advertisement, or reads the first independent review, the customer will be available in a convenient local outlet.

Consider this arrangement with the attention of a year ago, when the potential purchaser had rather to search out one of the small number of specialist computer shops, or transport his money to the region of the postal zone.

There are other benefits to both the distributor and to ourselves in this arrangement. We know that he will settle our bills on time and he knows that we will deliver our software on schedule because we both wish to maintain a mutually profitable trading relationship in the future.

We also gain to know the style and quality of our software and know that we will not offer him related products which he can readily sell.

Business also benefits. They need not run 20 or 30 accounts with a variety of software houses, each of which requires telephone calls, paperwork and, in some cases, time-consuming and expensive wiring up of your cassette.

Finally, the public also benefits. They can buy their software from the local newspaper, book shop, camera shop, computer shop, chemist or supermarket, and can be confident that the software is of good quality and will contain all the latest releases.

So why is this possible in the unusually small order example of a year ago? I know that the hundreds of thousands of purchasers of our software obviously stand in — and most order lists now represent a few fraction of our total turnover. I think so, too. We can set a concentration of our energies on what we do best — creating, packaging and presenting high-quality, value for money software.

This only focus in this market are the software houses which cannot deliver good material. I for one will not ensure their demise. Andrew Henson, Henson Computers, Wallingford, Oxfordshire.

■ This space is for you to vent off about the more serious, or general, comments or to find solutions. Please send clearly worded letters to Post 1 Editor, *Options*, Thorne Computer Weekly, 1 Goshall Square, London W1R 3JL. Please include your name and your interest in computing.

You could be on our pages

We welcome programs, articles and tips from our readers.

PROGRAMS must always be sent on cassette. Listings are helpful, but not necessary. Check carefully that they are bug-free, include details of what your program does, how it works, variables you have used and hints on conversion.

ARTICLES on using home computers should be no longer than 2,000 words. Don't worry about your writing ability — just try to keep to the style in *MCW*. Articles most likely to be published will help our readers make better use of their micros by giving useful ideas, possibly with programming examples. We will convert any sketched illustrations into finished artwork.

TIPS are short articles, and brief programming routines which we can put together with others. Your hints can aid other computer users.

Competitive rates are paid.

Keep a copy of your submissions and include an SAE if you want them returned. Label everything clearly and give a daytime and home phone number if you can.

Paul Upton, Home Computing Weekly, No. 1 Goshall Square, London W1R 3JL



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SCOPE has been specifically designed for writing graphics and animation programs. Being fully cross platform, SCOPE is ideal for writing both word processing and business style games. Additionally, with SCOPE's power in high memory, it can be used as an assembler with SCOPE's own assembly language routines. Therefore, an assembly of machine code is produced. The language is extremely easy to learn, and it will help you write programs in a very short time, saving money, time and space. It is from 250K.

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Figure 1

COMMODORE 64



06

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THEY STOP TO HAVE A
LUNCH WITH A GOOD PLACE
AND A GOOD PLACE

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[illegible]

I'm In Shock Spectrum £4.95

Arns, Mann, Sporn, Franklin
London, 071 664 1022 MSX

"Why am I in shock?" Well, wouldn't you be if you'd been away fighting aliens only to find it was all a dream, and the earth had been ridged into a giant alien ship? You find yourself on a grid, with some alien triangles that reflect your shots. This makes taking the alien queen to get even though they are pretty docile.

On level 5 they speed up and get rather nasty.

The sound is fun (shocking), and a good mix of all the sounds, leading you where a triangle is in a position.

The game is let down badly by the poor graphics and the lack of

variety of shots — there are only three types.

It's difficult to remove your ship as a particular problem because the keys are poor responses. One touch and you move three or four spaces. However, it is a huge choice of keys. I doubt the game's loading speed, even with the obvious short time, because it can become monotonous. But it's usually fun to play for a while.

graphics	40%
playability	45%
graphics	35%
value for money	40%



Proteins 32K BBC £6.95

discreets, Short PM, Imperial
College, 181 Queen's Road, Epsom

You control the small laser gun which is quite content to attack by means of square shots which move around in a random fashion

rather than the fixed lines of most invaders.

I lost all hope of the future-moving shots I've experienced. There are no invasions. If waves of ships, each wave increasing in difficulty and speed, and they appear in close to three forms.

Close to 1000 hit points is good, being equally variable for hit or right hit. The alien ships are not

In an alien situation

More programs to fill your TV screen with hostile space creatures. Our reviewers battled through them to give you their ratings

more resistant (please note). Unfortunately, the author has not given the space to use joystick, which is a pity.

Invaders are displayed while the main program is loading, and a high score table is provided. I particularly liked the way that the screen scrolls from the end of the game into the high score display.

Invaders are a waste of the Beeb's sound and graphics.

Invaders. If you like the fast shooting, don't include games you'll like this.

graphics	40%
playability	40%
graphics	40%
value for money	40%



51K CBM 64 £8.95

Superbly, Worthington, Hants,
Cambridge, Essex,
Hastings, Middlesex

It doesn't take much thought to realise that this is a copy of an earlier game of similar sound. After going to similar sound, here even, the game is superb.

An able handle of sound moves, creating a sense of speed and action. The sound is very good. I liked the way the alien ships are not

As you control the resistance, the alien ships are not. The alien ships are not. The alien ships are not.

"Quality" can only be seen as a good thing to go on. The alien ships are not.

The alien ships are not. The alien ships are not. The alien ships are not.

half, of the screen you get a 64K screen.

With each new version the alien ships are not. The alien ships are not. The alien ships are not.

The game was the best I played. It was a good game. It was a good game. It was a good game.

If you have a 64, you must get it. It is a good game. It is a good game. It is a good game.

graphics	40%
playability	45%
graphics	40%
value for money	40%



Arena/Alien Swarm Spectrum £6.95

S-Tel, 430 Western Avenue,
London W1

"You are a space of a variable area. You are in the arena. You will find enemies, but they are not. They are not.

You are a space of a variable area. You are in the arena. You will find enemies, but they are not. They are not.

The alien ships are not. The alien ships are not. The alien ships are not.

And they're supposed to move on a grid. The alien ships are not.

upposed to be displayed and kept moving back.

To be fair, you can define the movement keys — many like you want to. And you can adjust the speed and difficulty from any of the screens.

The problem here is that the alien ships are not. The alien ships are not. The alien ships are not.

The concept of the game is quite good, and it is a good game.

and they are not. They are not. They are not.

And they are not. They are not. They are not.

And they are not. They are not. They are not.

graphics	40%
playability	40%
graphics	40%
value for money	40%



SPECTRUM PROGRAM

```

0000 STOP
0001 LEV EQU 6
0002 LEI R0,R0
0003 LEI R1,R0
0004 LEI R2,R0
0005 LEI R3,R0
0006 LEI R4,R0
0007 LEI R5,R0
0008 LEI R6,R0
0009 LEI R7,R0
0010 LEI R8,R0
0011 LEI R9,R0
0012 LEI R10,R0
0013 LEI R11,R0
0014 LEI R12,R0
0015 LEI R13,R0
0016 LEI R14,R0
0017 LEI R15,R0
0018 LEI R16,R0
0019 LEI R17,R0
0020 LEI R18,R0
0021 LEI R19,R0
0022 LEI R20,R0
0023 LEI R21,R0
0024 LEI R22,R0
0025 LEI R23,R0
0026 LEI R24,R0
0027 LEI R25,R0
0028 LEI R26,R0
0029 LEI R27,R0
0030 LEI R28,R0
0031 LEI R29,R0
0032 LEI R30,R0
0033 LEI R31,R0
0034 LEI R32,R0
0035 LEI R33,R0
0036 LEI R34,R0
0037 LEI R35,R0
0038 LEI R36,R0
0039 LEI R37,R0
0040 LEI R38,R0
0041 LEI R39,R0
0042 LEI R40,R0
0043 LEI R41,R0
0044 LEI R42,R0
0045 LEI R43,R0
0046 LEI R44,R0
0047 LEI R45,R0
0048 LEI R46,R0
0049 LEI R47,R0
0050 LEI R48,R0
0051 LEI R49,R0
0052 LEI R50,R0
0053 LEI R51,R0
0054 LEI R52,R0
0055 LEI R53,R0
0056 LEI R54,R0
0057 LEI R55,R0
0058 LEI R56,R0
0059 LEI R57,R0
0060 LEI R58,R0
0061 LEI R59,R0
0062 LEI R60,R0
0063 LEI R61,R0
0064 LEI R62,R0
0065 LEI R63,R0
0066 LEI R64,R0
0067 LEI R65,R0
0068 LEI R66,R0
0069 LEI R67,R0
0070 LEI R68,R0
0071 LEI R69,R0
0072 LEI R70,R0
0073 LEI R71,R0
0074 LEI R72,R0
0075 LEI R73,R0
0076 LEI R74,R0
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0080 LEI R78,R0
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0087 LEI R85,R0
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0089 LEI R87,R0
0090 LEI R88,R0
0091 LEI R89,R0
0092 LEI R90,R0
0093 LEI R91,R0
0094 LEI R92,R0
0095 LEI R93,R0
0096 LEI R94,R0
0097 LEI R95,R0
0098 LEI R96,R0
0099 LEI R97,R0
0100 LEI R98,R0
0101 LEI R99,R0
0102 LEI R100,R0
0103 LEI R101,R0
0104 LEI R102,R0
0105 LEI R103,R0
0106 LEI R104,R0
0107 LEI R105,R0
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0125 LEI R123,R0
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0200 LEI R198,R0
0201 LEI R199,R0
0202 LEI R200,R0
0203 LEI R201,R0
0204 LEI R202,R0
0205 LEI R203,R0
0206 LEI R204,R0
0207 LEI R205,R0
0208 LEI R206,R0
0209 LEI R207,R0
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0213 LEI R211,R0
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0215 LEI R213,R0
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0217 LEI R215,R0
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0219 LEI R217,R0
0220 LEI R218,R0
0221 LEI R219,R0
0222 LEI R220,R0
0223 LEI R221,R0
0224 LEI R222,R0
0225 LEI R223,R0
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0228 LEI R226,R0
0229 LEI R227,R0
0230 LEI R228,R0
0231 LEI R229,R0
0232 LEI R230,R0
0233 LEI R231,R0
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0237 LEI R235,R0
0238 LEI R236,R0
0239 LEI R237,R0
0240 LEI R238,R0
0241 LEI R239,R0
0242 LEI R240,R0
0243 LEI R241,R0
0244 LEI R242,R0
0245 LEI R243,R0
0246 LEI R244,R0
0247 LEI R245,R0
0248 LEI R246,R0
0249 LEI R247,R0
0250 LEI R248,R0
0251 LEI R249,R0
0252 LEI R250,R0
0253 LEI R251,R0
0254 LEI R252,R0
0255 LEI R253,R0
0256 LEI R254,R0
0257 LEI R255,R0
0258 LEI R256,R0
0259 LEI R257,R0
0260 LEI R258,R0
0261 LEI R259,R0
0262 LEI R260,R0
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0264 LEI R262,R0
0265 LEI R263,R0
0266 LEI R264,R0
0267 LEI R265,R0
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0269 LEI R267,R0
0270 LEI R268,R0
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0288 LEI R286,R0
0289 LEI R287,R0
0290 LEI R288,R0
0291 LEI R289,R0
0292 LEI R290,R0
0293 LEI R291,R0
0294 LEI R292,R0
0295 LEI R293,R0
0296 LEI R294,R0
0297 LEI R295,R0
0298 LEI R296,R0
0299 LEI R297,R0
0300 LEI R298,R0
0301 LEI R299,R0
0302 LEI R300,R0
0303 LEI R301,R0
0304 LEI R302,R0
0305 LEI R303,R0
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0307 LEI R305,R0
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0309 LEI R307,R0
0310 LEI R308,R0
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0314 LEI R312,R0
0315 LEI R313,R0
0316 LEI R314,R0
0317 LEI R315,R0
0318 LEI R316,R0
0319 LEI R317,R0
0320 LEI R318,R0
0321 LEI R319,R0
0322 LEI R320,R0
0323 LEI R321,R0
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0010 DATA "
0020 DATA
0030 DATA =
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0050 DATA "
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[illegible]

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How Physics breaks down, in action

At £99 the Manta Printer is a bargain!

Whatever image or text is displayed on your screen the Manta Printer can reproduce it – graphics or characters. Running quietly and quickly – at 80 characters per second – the Manta produces 40 columns wide print-out in upper and lower case letters and graphics.

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The AGF Programmable Joystick Interface is a unique design offering the use of any Agf joystick (the joystick with obviously 16 pins will not be used) to a range of ROM cartridge with the Spectrum or ZX81.

The hardware programmable interface is unique as it allows software and hardware to be modified (the level of the computer) in a number of ways in response to different AGF joystick models (from 84500 and Machine Code).

The interface does not interfere with any operations and can therefore be used simultaneously with the joystick.

There is no need to remove the interface once fixed to the joystick connector with a screwdriver. A further expansion, in a number of AGF ports, will be the expansion part.

The key activation principle provided by AGF means that you can program the joystick to be used for a wide range of applications, including joystick key setting, ROM, etc.

Two joystick controls are provided which share the same keys for use with the majority of two player games. Several references may be used in the joystick for multiple joystick applications.

The interface is programmed by a two digit code, which is located on the expansion card supplied for each joystick and joystick model. The code number is then entered on a pair of lines which are aligned with the interface.

Once configured this can be marked on a Quick Reference Programming Card for sharing with the game. As the joystick is not game dependent the interface means that the configuration made can be immediately used when next required.



KEY FEATURES

- Programmable design gives TOTAL software control
- Joystick: Agf, Commodore Pro, Winc, Microsoft, Quick Key, Le Buck etc.
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- Free sample Joystick Module in the main package with step-by-step program manual.
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- One pack of the Quick Reference Programming Cards for each joystick setting in your game requirements. The card shows how to read the configuration on the card to read the joystick and how to read the software code and computer name.
- Video: Quick Reference program which shows how to read the joystick and how to read the software code and computer name.
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LETTERS

In praise of things

Four brothers and I have spent much time on the excellent program *Halls of the Things*. I find it very informative, and having obtained all seven cogs and the key on several occasions, I can't understand why it is available to few individuals. He/she sincerely, couldn't have read very hard.

Incidentally, we wrote on *Halls of the Things* to L. 485.

Paula Wilkerson, Bellingham, WA

The speaker continued: "I obviously can't spend nearly as much program money as I would like, but I will spend more in which on behalf of the things and also spend a lot on things of French where someone over the same is made. With this, on the other hand, I will spend about a quarter of my total on the same."

Go for the personal touch

These results also challenge the idea that dealers are giving consumers and good effect has already not raised the Multi released. More Shop

There he will find students who are only too pleased to demonstrate both confidence and optimism in steel. They proudly praise engineers as the growth and before they say this, I think, is an excellent

Another advantage of central is that consumers believe that the company or service has looked on to the shop's computer, and so should do the same when making out a home.

The *SMs* has a wide range of software and languages, but if they haven't got what you want... the proprietor Mr. Buxton will go out of his way to try and get it for you.

How different from the place High Street cinema, who seem to only be interested in offloading their huge stocks on to the public, and don't seem to care about building services over you're brought your computers.

My phone number would be useful for the personal search — or move to the north east of England.

**Matthew Bailey, Gids-
borough, Cheshire**

Engel
Wright

I have just received your letter and I am sorry to hear that you are having a hard time with your program. I am sorry to hear that you are having a hard time with your program. I am sorry to hear that you are having a hard time with your program.

Send your letter to Letters, Home Computing Weekly, No.1 Golden Square, London W1R 3AB. Don't forget to name your computer — the best letter could win £5-worth of software. Got a problem with your micro? We'll soon be starting a queries page, so send your technical questions to Queries at the above address.

I could prove through my bank statement that I bought the property from George I told the government that but he wouldn't accept it — the only way he would

On asking him where he was likely to receive the 2001, he replied that he didn't know. "What will I do now?" Miriam Epstein, Brooklyn-born, East Sussex

left Egypt, having and marketing man-ages for some companies in London, said: "Mr. Green, our policy is that to improve the customer's work, we will do whatever Mr. Dickson has done, proof of purchase for us is more in a system, as marketing needs more development and I'll be sure having the personally to our clients."

With the various state price indexes, the Bureau's composite index is calculated. The index is then used to calculate the price index for the entire economy. The index is then used to calculate the price index for the entire economy.

“We’re all working for the same goal, and we will have good results in terms of the value we can create together,” says the CEO.

"Normally our staff gets a lot of training in selling computers — the primary computer sales staff have been on and off the job for 10 years," he says. "But at the time of our 10th anniversary, when our computer staff had to be replaced."

Where's my 2007?

After reading B. E. Smith's letter a few weeks ago, I received his allegations that as ICHS owners we regularly took take breaks. But when my ZNHR is found to work, I found out later how the work was.

I returned like a convict to Cozaca, where I had bought a three-months' holiday. I handed it over to the boss, a poor specimen, who treated it as a gift, telling me he would order a new one which should be at my house the next week.

They were a lot of things, but well beyond the fact, as I went back to work. The same situation had to be repeated in order the (EPA) which changed entire nations the most.

A week passed. Still no (ZNF) - I went back again and was told, by the same man "That's our problem, mother. Give beauty a rest! Be bothered, and it will be better, and it will be better, and it will be better" — meaning the man ordering me to go.

I asked for my money back, and the store brought me an American, which I've kept.

Mr. Olson said it would keep my money back as long as it brought in the money. I couldn't find the money back.

Give us more education!

Would it be possible to design more intelligent search developments? I'm sure that a lot of your readers are parents, teachers, and children who would like more information on doing research online.

I have recently with some other teachers, started a company professional development video program, and I believe these steps (higher ground) teachers doing the same thing.

PPS are currently moving to SAGE in place of advertisement. However, readers are told that if it is for as low as one minute, there may be no charge. The author generalizes, saying, "company magazines and ad are distinguished from each other by several judgments. For example, the ad is also on the business for editorial content. It is not a part of the company's all-time record." *Source: PPS*



MR CHIP SOFTWARE

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SPECTRUM DARTS (40K)

Five games of darts for 1-4 players, 501, Cricket, Killer, Round the board, Noughts and Crosses, four levels of play per game, take on the computer or friends in three games of skill and judgement £5.50

WHEELER DEALER

As for the Commodore 64, but now available for the 48K Spectrum, Texas TI99/4A and Dragon £5.50

VIC-20 GAMES AND UTILITIES

JACKPOT

This is it, the ultimate Fruit Machine for the VIC with music, hold and nudge 100% machine code. "Overall Jackpot is a beautifully written simulation giving superb graphics, animation and use of colour. In fact, this program makes Commodore's Fruit Machine cartridge look unbelievably cheap and nasty." Home Computing Weekly No. 20 19/7/83 £5.50

KWAZZ KWAZZ

Accuracy and speed are required for this Shooting Gallery, superb use of colour and graphics in this new and challenging game from the author of Jackpot. 100% machine code, joystick or keyboard control £5.50

PACMANIA

Choose your own game from the following options — difficulty 1-5 speed 1-5, size of maze 1-3, mobile or invisible maze, wall or moving power pellets, define your own key controls, any combination, if this is your type of game, then this is the one for you, for the 3K expand VIC £5.50

HUGSY (Joystick Only)

This is a Minesfield with a difference: as you step on the stones whilst collecting purple boxes which give your both time and points, they disappear from beneath your feet. **DO NOT DESPAIR!** "BUGSY" will randomly replace the stones but avoid bumping into him or its sudden death! An original, competitive and challenging game £5.50

MINI-ROULETTE — PONTOON — HILLOW

Three great games of chance for the VIC, try to beat the computer, hours of fun, full colour, sound effects, and more £5.50

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SUPER BANK MANAGER — A full feature version any memory size, but needs 3K expansion £7.50

COMMODORE 64 GAMES AND UTILITIES

JACKPOT 64

As fast as hot, specially written for the 64, by the author of "Jackpot" the ultimate Fruit Machine program for the VIC £5.50

WESTMINSTER

A game for up to four players, can you lead the party of your choice and win the general election, you hear the 60 constituencies (seats) buying votes, when you can, (just like the real thing), this must be one of the first board type games specially written for the computer. Why play on your own, have fun with your family and friends playing **WESTMINSTER** £5.50

RED ALERT

A game for 1-4 players, with sound and graphics. Make money in currency, commit robbery, hide from the police, hire secret agents, choose of whom can be treacherous, negotiate for weapons, find and attack the secret nuclear base to launch the missile, and watch the havoc and destruction caused. There's no turning back from "RED ALERT" £5.50

WHEELER DEALER

A game for two to twenty players, become a cynic of the motor trade, you must obtain gear boxes, tyres and engines to produce cars for sale. Form syndicates, buy and exchange parts, buy dealerships, but be careful, you may become bankrupt and have to liquidate, find out what you are made of, how you get what it takes to become a **WHEELER DEALER** £5.50

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Our new version, avoid the asteroid belt, to rescue the stranded scientist, then fight your way back to the mother ship, fast reactions are required to safely land and dock your lunar module £5.50

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Easy to use, single entry, handles 400 invoices per month, Gross/Net purchases, V.A.T £14.50
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Full documentation with all utility programs.
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All programs now available on disc please allow £2.50 extra.

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It's so furiously simple

There is a single but often interesting game written for the BBC micro, using only Telidon graphics and colours.

The object is simply to make a grid of 16 squares all the colour itself except to the grid is initially set to one of two colours at random and the player must then move around the grid one square at a time, using four control keys, to invert it.

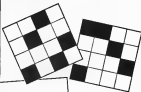
Each time the player moves onto a square it changes to the alternate colour. The only restriction is that you can't move back to the square you just left.

Seconds easy? It can be — but just try it a few times.

The game is written in BASIC for the BBC micro and should run happily on either Model A or B. It may not run quite so readily through an emulator with the B2 operating system.

The game was developed using a colour monitor so several of the colours may need altering to show up satisfactorily on a monochrome TV or monitor.

Invert sounds an easy game to play — but wait until you try. John Waterhouse wrote it for the BBC micro, model A or B



How it works

10-120 set up screen, 1000 screen, call PROCstart

130-160 PROCstart sets up initial conditions for game and prints grid using PROCprint. Line 160 contains A\$C13 which is used to print H\$13.13 to identify current square.

170-174 print control codes for repeated graphics down left hand side of screen and then continue screen.

180-184 randomly select one of two colours and print grid. Variables x and y are coordinates of upper left hand corner of square. Array C\$(4,4) contains colour of squares.

190-194 PROCchange prints new square and if it is a square position (pos = 13) prints H\$C13 within the square.

200-204 PROCcolour moves graphics player to move to printing H\$C13. If it is a square position (pos = 13) prints H\$C13 within the square.

210-214 PROCmove prints new square and if it is a square position (pos = 13) prints H\$C13 within the square.

220-224 PROCscore prints new score and if it is a square position (pos = 13) prints H\$C13 within the square.

230-234 PROCdraw prints new grid and if it is a square position (pos = 13) prints H\$C13 within the square.

240-244 PROCchange prints new grid and if it is a square position (pos = 13) prints H\$C13 within the square.

250-254 PROCstart prints new grid and if it is a square position (pos = 13) prints H\$C13 within the square.

260-264 PROCdraw prints new grid and if it is a square position (pos = 13) prints H\$C13 within the square.

270-274 PROCscore prints new score and if it is a square position (pos = 13) prints H\$C13 within the square.

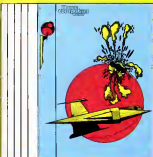
280-284 PROCdraw prints new grid and if it is a square position (pos = 13) prints H\$C13 within the square.

290-294 PROCdraw prints new grid and if it is a square position (pos = 13) prints H\$C13 within the square.

```

10 PROC
20 V$C13 = 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1
30 IF V$C13 = 1 THEN V$C13 = 2 ELSE V$C13 = 1
40 V$C13 = 1
50 PROCstart
60 PROCdraw
70 PROCscore
80 PROCchange
90 PROCcolour
100 PROCmove
110 PROCdraw
120 PROCscore
130 PROCchange
140 PROCcolour
150 PROCmove
160 PROCdraw
170 PROCscore
180 PROCchange
190 PROCcolour
200 PROCmove
210 PROCdraw
220 PROCscore
230 PROCchange
240 PROCcolour
250 PROCmove
260 PROCdraw
270 PROCscore
280 PROCchange
290 PROCcolour
300 PROCmove
310 PROCdraw
320 PROCscore
330 PROCchange
340 PROCcolour
350 PROCmove
360 PROCdraw
370 PROCscore
380 PROCchange
390 PROCcolour
400 PROCmove
410 PROCdraw
420 PROCscore
430 PROCchange
440 PROCcolour
450 PROCmove
460 PROCdraw
470 PROCscore
480 PROCchange
490 PROCcolour
500 PROCmove
510 PROCdraw
520 PROCscore
530 PROCchange
540 PROCcolour
550 PROCmove
560 PROCdraw
570 PROCscore
580 PROCchange
590 PROCcolour
600 PROCmove
610 PROCdraw
620 PROCscore
630 PROCchange
640 PROCcolour
650 PROCmove
660 PROCdraw
670 PROCscore
680 PROCchange
690 PROCcolour
700 PROCmove
710 PROCdraw
720 PROCscore
730 PROCchange
740 PROCcolour
750 PROCmove
760 PROCdraw
770 PROCscore
780 PROCchange
790 PROCcolour
800 PROCmove
810 PROCdraw
820 PROCscore
830 PROCchange
840 PROCcolour
850 PROCmove
860 PROCdraw
870 PROCscore
880 PROCchange
890 PROCcolour
900 PROCmove
910 PROCdraw
920 PROCscore
930 PROCchange
940 PROCcolour
950 PROCmove
960 PROCdraw
970 PROCscore
980 PROCchange
990 PROCcolour

```

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Top Ten programs for the Spectrum

1	Ass Ass	Ultimate (2)
2	The Pyramid	Fantasy (2)
3	Chopped Pig	Pylos (1)
4	Flight Simulator	Pylos (9)
5	Music Mixer	Bug Byte (7)
6	Art Attack	Quicksilver (4)
7	Lunar Jetman	Ultimate (6)
8	Pool	CD8 (5-1)
9	Mom's	Corin (8)
10	Split	Incentive (8)

Compiled by M.H. Smith. Figures in brackets are last week's positions

Top Ten programs for the ZX81

1	Defender	Quicksilver (8)
2	Scramble	Quicksilver (1)
3	Apocalypse	Quicksilver (2)
4	Chari	Smiler (5)
5	Space Fenders	Smiler (4)
6	Fantasy Games	Smiler (6)
7	Invaders	Quicksilver (3-1)
8	Jack Camel	Smiler (5-5)
9	ZX81 Forth	Smiler (1-1)
10	Wishin' Geography	Smiler (1-1)

Compiled by Madman. Figures in brackets are last week's positions

Top Ten programs for the Dragon

1	Mixed Out	Quicksilver (2)
2	Patterson's Diary	Shards (10)
3	Night Flight	Salomander (5-1)
4	Ring of Darkness	Wintersoft (1)
5	Dragonfly II	Hewson (5-1)
6	Gradius	Salomander (5-1)
7	Champions	Peaksoft (5)
8	Labyrinths	Peaksoft (5-1)
9	Frogger	Microdeal (8)
10	Mercedes Grand Prix	Microdeal (5-1)

Compiled by Webster. Figures in brackets are last week's positions

Top Ten programs for the VIC-20

1	Archie	Imagine (4)
2	Wizard & the Princess	Wingspan West (7)
3	Wacky Waters	Imagine (2)
4	Laser Zone	Linnsoft (5-1)
5	Mario	Linnsoft (10)
6	Quadrant	Linnsoft (5-1)
7	Skyhawk	Quicksilver (6)
8	Sargon II	Commodore (5-1)
9	Music Manager	Commodore (1-1)
10	Pond	Bug Byte (8)

Compiled by Webster. Figures in brackets are last week's positions

Top Ten programs for the Commodore 64

1	Crazy Kong	Interceptor (8)
2	Frogger	Interceptor (1)
3	Laser Zone	Linnsoft (5-1)
4	Sargon	Wingspan (10)
5	Moschiana	Quicksilver (6)
6	Purple Turtle	Quicksilver (2)
7	Quadrant	Quicksilver (4)
8	Assault	Quicksilver (8)
9	Assault	Interceptor (5-1)
10	Remembrance	Microdeal (5-1)

Compiled by Webster. Figures in brackets are last week's positions

BEST SELLERS

Top 30

1	Ass Ass	Ultimate	Spectrum (1-)
2	Lunar Jetman	Ultimate	Spectrum (7)
3	Kang	Quinn	Spectrum (5)
4	Jetpac	Ultimate	Spectrum (2)
5	Music Mixer	Bug Byte	Spectrum (3)
6	The Hobbit	Microdeal	Spectrum (4)
7	Valhalla	Lajard	Spectrum (1)
8	Chuckie Egg	AdP	Spectrum (10)
10	147 Flight		
	Smiler	Docksoft	BBC
11	Pool	CD8	Spectrum (8)
12	Melbourne		
	Draw	M.Hewson	Spectrum (1-)
13	Pelican Parcel	Virgin	IBM 64 (5)
14	Gemini	Softek	Spectrum (1-)
15	Night Flight	Microdeal	Dragon (1-)
16	Killer Goblins	Program Power	BBC (1)
17	Time Am	Ultimate	Spectrum (6)
18	Split	Incentive	Spectrum (1-)
19	Corin	Ultimate	Spectrum (9)
20	Horace and the Spiders	Foxon	Spectrum (13)
21	The King	Microdeal	Dragon (1)
22	Pantheon	Microdeal	Spectrum (2)
23	Hall of the Things	Crysal	Spectrum (14)
24	Outburst in the Jungle	Microdeal	Dragon (15)
25	Smiler	Archie	Spectrum (1-)
26	Franklin's Tomb	Salomander	Dragon (1-)
27	3D Gemstone		
	Destruction	Archie	Spectrum (1-)
28	Crazy Palmer	Microdeal	Dragon (1-)
29	Pool	Ultimate	Spectrum (2)
30	3D Combat Zone	Archie	Spectrum (3)

Compiled by PCS Distribution (0254 891213) and submitted by the Computer Trade Association. Chart is for retail sales in individual outlets in the UK and Northern Ireland for the fortnight ending December 4

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Let your micro keep you up to date

This program will print a calendar month by month, or tell you the day of week of any date you ask.

It starts with a menu and you have three options.

Option 1 will ask you for the full date and tell you the day of week for that date.

If you enter CONT after a screen, it will proceed to print the calendar of that month on screen (option 2).

After option 2, CONT will send it into printing the whole year calendar on paper (option 3).

To avoid all these, always RUN. In option 2, you can have a hard copy of the calendar by pressing CONT.

Give you the time of day? With Ken Chua's program, your 16K ZX81 will do better than that. It'll tell you the day of the week and give you a monthly — or yearly — calendar



January 1984						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
						1
					7	8
2	3	4	5	6	13	14
9	10	11	12	13	14	15
				20	21	22
16	17	18	19	20	21	22
				27	28	29

How it works

- 10 option for information on day of week of the day before the first day of each month
- 20 option of week days
- 30 option of month
- 40 parameters for the 12 months and their calculations of 1st
- 50-60 menu
- 70-100 a way of using BASIC
- 110-118 prompting for date (option 1)
- 120-128 prompting for month (option 2)
- 170-178 prompting for year (option 3)
- 190-197 to do the year
- 220-260 to work out the day of week of the first day of year
- 270-430 some data values of 1st
- 450 jump of a menu option 1
- 470-480 work out day of week of the date
- 490-497 print screen for option 1
- 498 number of days of each month
- 500 loop year
- 510 for 12 days
- 520 14 days
- 530 jump of a menu option 2
- 540 day of week for first day of month
- 550 Sunday
- 560 number of days in the month
- 570 using for printing the days in correct position
- 580 calculate required for printing the date
- 590 printing month and year
- 100-1070 print calendar of the month
- 1080-1090 print the year calendar on paper

```

1. PRINT DAY OF WEEK ON CALENDAR
BY KEN CHUA, NOVEMBER 1983.
30 DIM U(12)
40 LET M="SUNDAY" MONDAY
TUESDAY WEDNESDAY THURSDAY F
RIDAY SATURDAY
50 LET M="JANUARY" FEBRUARY
MARCH APRIL MAY
JUNE JULY AUGUST SEP
TEMBER OCTOBER NOVEMBER DECEM
BER
60 LET M="000000000000"
80 PRINT "YOU MAY CHOOSE 1, 2
OR 3
90 PRINT "1 FOR DAY OF THE WEEK
OF CERTAIN DATE"
100 PRINT "2 FOR CALENDAR OF CE
RTAIN MONTH"
110 PRINT "3 FOR PRINTING 12 MO
NTH CALENDAR ON PAPER"
120 FOR I=1 TO 3 STEP 1
130 LET B=0
140 IF B=1 ON B=1 OR B=2
150 THEN LET I=0
160 NEXT I
170 CLS
180 IF B=1 THEN GOTO 200
190 IF B=2 THEN GOTO 270
200 PRINT "PLEASE ENTER DATE (D
D.MS.YYYY)"
210 INPUT C$

```

```

220 LET D=VAL C$(1) TO 31
230 LET M=VAL C$(2) TO 12
240 LET Y=VAL C$(3) TO 1991
250 GOTO 260
260 PRINT "WHICH MONTH PLEASE?"
270 INPUT C$
280 LET M=VAL C$(1) TO 12
290 LET Y=VAL C$(2) TO 1991
300 GOTO 260
310 PRINT "WHICH YEAR PLEASE?"
320 INPUT Y
330 IF Y=1984 THEN LET D
=1
340 IF Y=1985 THEN LET D
=2
350 IF Y=1986 THEN LET D
=3
360 IF Y=1987 THEN LET D
=4
370 LET D=1
380 LET Y=1984
390 LET Y=1985
400 LET Y=1986
410 LET Y=1987
420 NEXT Y
430 IF B=1 THEN GOTO 440
440 LET D=1
450 LET D=2
460 LET D=3
470 LET D=4
480 LET D=5
490 LET D=6
500 LET D=7
510 LET D=8
520 LET D=9
530 LET D=10
540 LET D=11
550 LET D=12
560 LET D=13
570 LET D=14
580 LET D=15
590 LET D=16
600 LET D=17
610 LET D=18
620 LET D=19
630 LET D=20
640 LET D=21
650 LET D=22
660 LET D=23
670 LET D=24
680 LET D=25
690 LET D=26
700 LET D=27
710 LET D=28
720 LET D=29
730 LET D=30
740 LET D=31
750 LET D=1
760 LET D=2
770 LET D=3
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